

REMARKS

Claims 1, 10, 12, and 14 are amended, no claims are canceled, and no claims are added; as a result, claims 1-6, 8-10, 12, 14, and 94 are now pending in this application.

§112 Rejection of the Claims

Claims 10, 12, and 14 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant respectfully disagrees with the statement in the Office Action on page 2 that "In claim 10 the scope of the language, 'a non-structural component,' is unclear because the terms 'non-structural' and /or 'component' appear to be given meanings repugnant to their usual meanings." In a response to a previous Office Action, the previous Office Action being mailed January 1, 2005, Applicant referred to portions of the specification, specifically page 4, lines 17-25, and page 5 lines 1-6, which support and clearly determine the meaning of the claim language. In addition, in the same response mentioned above, Applicant traversed the taking of official notice with regards to "the component is inherently structural." The current Office Action cites no reference and provides no affidavit in support of the proposition that "the component is inherently structural."

While the Applicant disagrees with the position taken in the Office Action, in order to further the prosecution of the application Applicant has amended claims 10, 12, and 14. Therefore, Applicant submits that the rejection of claims 10, 12, and 14 under 35 U.S.C. § 112, second paragraph, has been overcome. Applicant respectfully requests that the next official communication indicate that this rejection is withdrawn, and that claims 10, 12, and 14 are allowed.

§102 Rejection of the Claims

Claims 1, 5, 6, 8-10, 12, 14, and 94 were rejected under 35 U.S.C. § 102(e) as being anticipated by Eldridge (U.S. Patent No. 6,667,219).

Claim 1, as amended, now recites, "the conductive structure includes a horizontal conductive interconnect and at least one vertical wiring via coupling the horizontal conductive interconnect to the electronic chip, wherein the horizontal conductive interconnect is formed in and above a fill material." Claim 6 recites, "the plurality of materials is formed on the electronic chip and the conductive structure is coupled to the electronic chip; wherein each of the plurality of materials contacts a surface of the electronic chip." Claim 10, as amended, now recites, "wherein the conductive structure includes a horizontal conductive interconnect formed in and above the fill material and at least one vertical wiring via coupling the horizontal conductive interconnect to the electronic chip."

Applicant believes these elements of claims 1, 6, and 10, as quoted above, distinguish these claims from the Eldridge patent. Claims 5 and 94 depend from claim 1, claims 8-9 depend from claim 6, and claims 12 and 14 depend from claim 10. Therefore, dependent claims 5, 8-10, 12, 14, and 94 include all of the elements recited in the claim from which they depend, and therefore also distinguish from the Eldridge patent.

For at least the reasons stated above, Applicant respectfully requests withdrawal of the rejection and reconsideration and allowance of claims 1, 5, 6, 8-10, 12, 14, and 94.

§103 Rejection of the Claims

§103 Rejections under the proposed combinations of Eldridge with Manning, Eldridge with Havemann et al., Eldridge with Akram, Eldridge with Juengling et al., Eldridge and Juengling et al. with Manning, Eldridge and Juengling et al. with Havemann et al., and Eldridge and Juengling et al. with Akram.

Claims 1, 2, 5, 6, 8-10, 12, 14, and 94 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Eldridge (U.S. Patent No. 6,667,219) as applied to claims 1, 5, 6, 8-10, 12, 14, and 94, and further in combination with Manning (U.S. Patent No. 5,691,565).

Claims 1, 4, 5, 6, 8-10, 12, 14, and 94 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Eldridge (U.S. Patent No. 6,667,219) as applied to claims 1, 5, 6, 8-10, 12, 14, and 94, and further in combination with Havemann et al. et al. (U.S. Patent No. 5,461,003).

Claims 1, 5, 6, 8-10, 12, 14, and 94 rejected under 35 U.S.C. § 103(a) as being unpatentable over Eldridge (U.S. Patent No. 6,667,219) as applied to claims 1, 5, 6, 8-10, 12, 14, and 94, and further in combination with Akram (U.S. Patent No. 6,214,716).

Claims 1, 5, 6, 8-10, 12, 14, and 94 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Juengling et al. (U.S. Patent No. 6,333,556) and Eldridge (U.S. Patent No. 6,667,219).

Claims 1, 2, 5, 6, 8-10, 12, 14, and 94 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Juengling et al. (U.S. Patent No. 6,333,556) and Eldridge (U.S. Patent No. 6,667,219) as applied to claims 1, 5, 6, 8-10, 12, 14, and 94, and further in combination with Manning (U.S. Patent No. 5,691,565).

Claims 1, 4, 5, 6, 8-10, 12, 14, and 94 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Juengling et al. (U.S. Patent No. 6,333,556) and Eldridge (U.S. Patent No. 6,667,219) as applied to claims 1, 5, 6, 8-10, 12, 14, and 94, and further in combination with Havemann et al. (U.S. Patent No. 5,461,003).

Claims 1, 5, 6, 8-10, 12, 14, and 94 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Eldridge (U.S. Patent No. 6,667,219) as applied to claims 1, 5, 6, 8-10, 12, 14, and 94, and further in combination with Akram (U.S. Patent No. 6,214,716).

Each of these rejection is improper because the Eldridge, Juengling et al., and Akram patents are disqualified for use as prior art against the pending claims of the current application.

The patents to Eldridge, Juengling et al. and Akram are disqualified as prior art against the claims of the current application under 35 U.S.C. 103. M.P.E.P. § 706.02(k) states,

Effective November 29, 1999, subject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102(e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention "were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person." This change to 35 U.S.C. 103(c) applies to all utility, design and plant patent applications filed on or after November 29, 1999, including . . . continued prosecution applications filed under 37 CFR 1.53(d), . . . M.P.E.P. § 706.02(k). [Emphasis added].

Thus, in order to show that a reference is disqualified, Applicant need only demonstrate: (1) that the utility application was filed on or after November 12, 1999, including Continued Prosecution Applications filed under 37 C.F.R. § 1.53(d), (2) that the disqualified references are references under former 35 U.S.C. § 103 via 35 U.S.C. § 102(e), and (3) that the cited references were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

With regards to item (1) above, the provisions of M.P.E.P. § 706.02(k) apply to the claims of the current application because the application was filed as a Continued Prosecution Application under 37 C.F.R. § 1.53(d) on April 10, 2003, which is after November 29, 1999.

With regards to item (2) above, 35 U.S.C. § 102(e) describes §102(e) references as "(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent." Eldridge was patented on December 23, 2003, Juengling et al. was patented on December 25, 2001, and Akram was patented on April 10, 2001. In all three instances, the patenting was by another and occurred after the date of invention of the present application, specifically August 25, 1999, the filing date of the application used as the basis for the Continued Prosecution Applications filed under 37 C.F.R. § 1.53(d). Therefore, each of the patents to Eldridge, Juengling et al. and Akram qualify as references under former 35 U.S.C. § 103 via 35 U.S.C. § 102(e).

With regards to item (3) above, each of the Eldridge, Juengling et al., and Akram patents were, at the time the invention was made, subject to an obligation of assignment to the same person. Applicant has included with this response a copy of the first page of each of the following: the U.S. 6,667,219 patent to Eldridge, the U.S. 6,333,556 patent to Juengling et al., and the U.S. 6,214,716 patent to Akram. In each instance, the cover first page lists as Assignee: "Micron Technology, Inc, Boise, ID (US)." Applicant submits that the current application is assigned to Micron Technologies, Inc. Boise, ID (US). Moreover, the subject matter of the present application was subject to assignment at the time the invention was made.

Because M.P.E.P. § 706.02(k) applies to all of the 35 U.S.C. § 103 rejections including any of the patents to Eldridge, Juengling et al. and Akram, these patents are disqualified as prior art, and therefore, the 35 U.S.C. § 103 rejections including these patents are improper.

For at least the reasons stated above, Applicant requests withdrawal of the rejections of claims 1-2, 4-6, 8-10, 12, 14, and 94, and reconsideration and allowance of claims 1-2, 4-6, 8-10, 12, 14, and 94.

§103 Rejections under the proposed combinations of Sun with Murata

Claims 1-6, 8-10, 12, 14, and 94 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sun (U.S. Patent No. 6,350,672) and Murata et al. (U.S. Patent No. 5,268,587).

The proposed combination of Sun and Murata et al. fails to teach or suggest all of the elements recited in claims 1-6, 8-10, 12, 14, and 94.

The proposed combination of Sun and Murata et al. fails to teach or suggest "includes a horizontal conductive interconnect and at least one vertical wiring via coupling the horizontal conductive interconnect to the electronic chip, wherein the horizontal conductive interconnect is formed in and above a fill material," as recited in claim 1, and fails to teach or suggest "a conductive structure embedded in a plurality of materials, each of the plurality of materials having a different vaporization temperature, the plurality of materials is formed on the electronic chip and the conductive structure is coupled to the electronic chip; wherein each of the plurality of materials contacts a surface of the electronic chip," as recited in claim 6, and further fails to teach or suggest "wherein the conductive structure includes a horizontal conductive interconnect formed in and above the fill material and at least one vertical wiring via coupling the horizontal conductive interconnect to the electronic chip," as recited in claim 10.

Further, the Office Action on page 9 admits that Sun fails to disclose a flip chip, but asserts that Murata et al. "inherently discloses a flip chip because the term 'flip chip' is a statement of intended use of the chip that does not appear to result in a structural difference between the claimed chip and the chip of Murata." Applicant disagrees. A flip chip is type of chip, not a statement of intended use, and would be recognized by those of ordinary skill in the art as such. Further, since the Office Action relies on inherency to disclose a flip chip, Applicant assumes the Office Action is taking official notice of the disclosure of a flip chip. Applicant respectfully objects to the taking of official notice, and pursuant to M.P.E.P. § 2144.03,

Applicant traverses the assertion of official notice and requests that the Examiner cite a reference that teaches the missing element. If the Examiner cannot cite a reference that teaches the missing element, Applicant respectfully requests that the Examiner provide an affidavit that describes how the missing element is present in the prior art. If the Examiner cannot cite a reference or provide an affidavit, Applicant requests withdrawal of the rejection and reconsideration and allowance of claim 94.

For at least the reasons stated above, the proposed combination of Sun and Murata et al. fails to teach or suggest all of the elements recited in claims 1, 6, and 10, and thus also fails to recite all of the elements included in dependent claim 2-5, 8-9, 12, 14, and 94, which depend from one of claims 1, 6, or 10.

The Office Action fails to state a proper basis for forming the proposed combination of Sun with Murata et al.

The Office Action fails to provide proper motivation or suggestion to combine Sun with Murata et al. The Office Action, on page 9 states, "Moreover, it would have been obvious to combine this disclosure of Murata with the disclosure of Sun because it would enable manufacture of a DRAM and reduce the migration phenomenon in the aluminum conductive structure of Sun," and further, on page 10, "it would have been obvious to combine this disclosure of Murata with the disclosure of Sun because it would facilitate provision of the silicon oxide of Sun." Applicant disagrees with these statements. Sun does not appear to concern "manufacture of a DRAM" or "reduction of the migration phenomenon in aluminum conductive structure" or "provision of the silicon oxide," and so the statements in the Office Action are merely conclusory statements based on impermissible hindsight. Because these statements fail to meet the standards as set forth above, the Office Action has failed to state a *prim facie* case of obviousness with respect to claims 1-6, 8-10, 12, and 14.

The Office Action on page 15 states, "This argument is respectfully deemed unpersuasive and traversed because Sun is not relied on in the rejection for a disclosure of manufacturing a DRAM or reduction of migration phenomenon in aluminum conductive structure." While Applicant does not necessarily agree or disagree with this statement, the Office Action does rely on this statement in an attempt to provide a motivation for combining the references of Sun and

Murata et al. Because this statement is not supported by the disclosure of Sun, the Office Action fails to meet the requirements for providing proper motivation or suggestion to combine Sun with Murata et al. regardless of whether or not these statements were relied on to disclose elements recited in the claims. Thus, Applicant maintains that the Office Action fails to state a *prima facie* case of obviousness with regards to claims 1-6, 8-10, 12, 14, and 94 because the Office Action fails to state a proper basis for forming the proposed combination of Sun and Murata et al.

For at least the reasons stated above, Applicant respectfully requests withdrawal of the rejection and reconsideration and allowance of claims 1-6, 8-10, 12, 14, and 94.

Reservation of Rights

Applicant does not admit that references cited under 35 U.S.C. §§ 102(a), 102(e), 103/102(a), or 103/102(e) are prior art, and reserves the right to swear behind them at a later date. Arguments presented to distinguish such references should not be construed as admissions that the references are prior art.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 349-9587 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

PAUL A. FARRAR

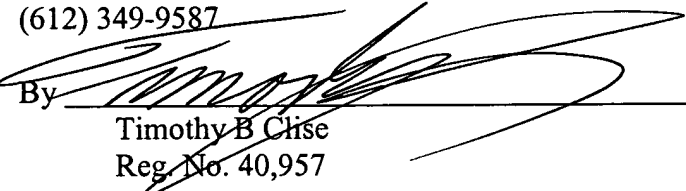
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 12 day of September, 2005.

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